

CLAIMS

We claim:

1. Apparatus comprising:

5 an automated banking machine including:

a housing;

10 a user interface in supporting connection with the housing, the user interface including at least one input device and at least one output device, wherein the user interface is adapted to receive identifying inputs usable to identify user accounts, to output indicia usable to operate the machine, and to receive machine transaction inputs responsive to which the machine is operative to carry out at least one transaction function;

15 a sheet holding area within the housing, wherein the sheet holding area is adapted to hold a stack comprising a plurality of financial instrument sheets in abutting relation;

20 at least one movable picking member, wherein the at least one picking member is positioned such that a first sheet bounding the stack engages the at least one picking member, and wherein movement of the at least one picking member in a picking direction

is operative to urge the first sheet to move relative to the stack in a first direction, and wherein the at least one picking member includes a plurality of sheet engaging portions adapted to engage the first sheet, and at least one recess wherein the at least one recess extends in the first direction and is intermediate of adjacent sheet engaging portions;

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at least one first stripper portion, wherein the at least one first stripper portion extends in generally aligned relation with the at least one recess, wherein the at least one first stripper portion is positioned to engage the first sheet when the first sheet moves in the first direction between the at least one picking member and the at least one first stripper portion, wherein the at least one first stripper portion is not in contact stripping engagement with the at least one sheet engaging portion when the first sheet is not positioned between the at least one picking member and the at least one first stripper portion;

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at least one second stripper portion, wherein the at least one second stripper portion engages at least one cooperating sheet engaging portion in contact stripping engagement, and wherein the first sheet is enabled to move in the first direction between the at least one second stripper portion and the at least one cooperating first sheet engaging portion;

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wherein responsive to at least one user input to the at least one input device of the user interface, the at least one picking member moves in the picking direction engaging a first

face of the first sheet and urging the first sheet to move from the stack in the first direction while the first stripper portion and the second stripper portion engage an opposed face of the first sheet and resist movement of the first sheet in the first direction, wherein sheets included in the stack other than the first sheet are generally prevented from moving from the stack with the first sheet.

2. The apparatus according to claim 1 and further comprising at least one validating device within the housing adapted to determine at least one characteristic of the first sheet after it is moved from the stack.

3. The apparatus according to claim 2 and further comprising a sheet storage mechanism in the housing, and wherein the sheet storage mechanism is operative to store the first sheet with other sheets having the at least one determined characteristic.

4. The apparatus according to claim 3 wherein the housing further comprises a chest portion and the sheet storage mechanism is positioned in the chest portion, and wherein the validating device is positioned outside the chest portion, and wherein the chest portion includes an upper surface within the housing having a sheet accepting opening, and wherein the first sheet is moved toward the sheet storage mechanism generally vertically through the sheet accepting opening.

5. The apparatus according to claim 4 and wherein the sheet storage mechanism includes a sheet transport, and wherein a member driving the transport extends in the sheet accepting opening.

5 6. The apparatus according to claim 1 wherein engagement of the first sheet with the picking member and the first stripper portion imparts a cross-sectional wave configuration in the sheet extending transversely to the first direction.

7. The apparatus according to claim 1 wherein the first stripper portion extends in
10 the at least one recess, wherein engagement of the first sheet with the picking member and the at least one first stripper portion imparts a cross-sectional wave configuration in the first sheet generally transverse to the first direction.

8. The apparatus according to claim 6 wherein the at least one first stripper portion is
15 positioned relative to the at least one second stripper portion such that as the first sheet moves in the first direction in engagement with the plurality of sheet engaging portions, the first sheet engages the at least one first stripper portion prior to engaging the at least one second stripper portion.

20 9. The apparatus according to claim 1 wherein the at least one picking member comprises a generally cylindrical picking member, and wherein the at least one recess comprises

an annular recess in the picking member.

10. The apparatus according to claim 9 wherein the at least one first stripper portion extends in the annular recess.

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11. The apparatus according to claim 10 and further comprising a first stripper roll, and wherein the first stripper portion comprises a first stripper surface of the first stripper roll.

12. The apparatus according to claim 1 wherein the first stripper surface extends into
10 the annular recess.

13. The apparatus according to claim 9 wherein the sheet engaging portion includes a high friction arcuate segment on the picking member.

14. The apparatus according to claim 13 wherein the high friction arcuate segment
15 extends less than a full circumference of the picking member.

15. The apparatus according to claim 13 and further comprising a second stripper roll, wherein the second stripper roll includes the second stripper portion, and wherein the second
20 stripper roll engages the high friction arcuate segment in contact stripping engagement when the first sheet is not extending between the picking member and the second stripper roll.

16. The apparatus according to claim 12 wherein the sheet engaging portions include a high friction arcuate segment in supporting connection with the picking member.

5 17. The apparatus according to claim 16 wherein the high friction arcuate segment extends less than a full circumference of the picking member.

18. The apparatus according to claim 17 and further comprising a second stripper roll, wherein the second stripper roll includes the second stripper portion, and wherein the second stripper roll engages the high friction arcuate segment in contact stripping engagement when the
10 first sheet is not extending between the picking member and the second stripper roll.

19. The apparatus according to claim 18 wherein the first sheet engaging portion including the high friction arcuate segment is generally centered transversely on the picking member relative to the first sheet, and wherein the first sheet engaging portion is bounded on the
15 picking member on each side transversely by an annular recess.

20. The apparatus according to claim 19 wherein the first stripper roll is in operative connection with a first one-way clutch, and the second stripper roll is in operative connection with a second one-way clutch, wherein the first and second one-way clutch each resist
20 cooperative movement of the first and second stripper rolls with the first sheet as the first sheet moves in the first direction, but enable cooperative movement of the first and second stripper

rolls when the first sheet moves in a second direction opposed of the first direction.

21. The apparatus according to claim 1 wherein the housing comprises a chute therein, wherein the chute includes the sheet holding area including the stack, and wherein the chute is accessible from outside the machine.

22. The apparatus according to claim 21 wherein the chute is bounded interiorly by a lower surface, and wherein the first sheet when positioned in the stack is in supporting connection with the lower surface.

23. The apparatus according to claim 22 wherein the lower surface of the chute includes at least one water capturing opening and wherein the at least one water capturing opening is in fluid communication with a drain in fluid connection with an area outside the machine.

24. The apparatus according to claim 22 and further comprising at least one moving member within the interior of the chute, wherein the at least one moving member engages the opposed face of the first sheet and urges the first sheet to move in the first direction.

25. The apparatus according to claim 24 wherein the at least one moving member is operative to urge the first sheet to move in the first direction responsive to the at least one user

input.

26. The apparatus according to claim 22 wherein the chute is bounded in a direction generally transverse to the lower surface by at least one engaging surface, wherein engagement of the stack with the at least one engaging surface is operative to splay the stack in the first direction.

27. The apparatus according to claim 26 and further comprising an idler roll positioned in the chute, and wherein the at least one engaging surface comprises a surface of the idler roll.

28. The apparatus according to claim 27 and further comprising a movable gate in supporting connection with the housing, wherein access to an interior area of the chute is controlled by the gate.

29. The apparatus according to claim 1 wherein the financial instrument sheets in the stack include both plastic and paper sheets.

30. The apparatus according to claim 1 wherein the financial instrument sheets in the stack include both currency notes and checks.

31. The apparatus according to claim 1 wherein the financial instrument sheets
comprise currency notes.

32. The apparatus according to claim 4 wherein the chest portion includes a generally
5 vertically extending wall extending generally perpendicular relative to the upper surface, and
wherein the validating device is movably mounted in supporting connection with the chest
portion and is movable generally parallel to the generally vertically extending wall.

33. The apparatus according to claim 32 wherein the validating device includes a
10 movable service panel supported thereon, and wherein in an operative position of the validating
device the service panel is positioned adjacent the generally vertically extending wall, whereby
opening the service panel to access interior components of the validating device is prevented.

34. The apparatus according to claim 33 wherein the sheet storage mechanism
15 includes a sheet transport, and wherein the validating device includes a driving member, and
wherein in the operative position of the validating device the driving member operatively
engages the sheet transport.

35. Apparatus comprising:

20 an automated banking machine apparatus including:

a housing

a sheet holding area within the housing adapted to receive a stack comprising a plurality of financial instrument sheets input by a user to the apparatus;

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at least one movable picking member adjacent the sheet holding area, wherein the

at least one picking member is positioned such that a first sheet bounding the

stack engages the at least one picking member, and wherein movement of the at

least one picking member in a picking direction is operative to cause the first

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sheet to move relative to the stack in a first direction, and wherein the at least one

picking member includes at least one sheet engaging portion adapted to engage

the first sheet, and at least one recess wherein the at least one recess extends in the

first direction and is transversely disposed from the at least one sheet engaging

portion; at least one first stripper portion, wherein the at least one first stripper

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portion extends in generally aligned relation with the at least one recess, wherein

the at least one first stripper portion is not in contact stripping engagement with a

sheet engaging portion when no sheet extends between the at least one picking

member and at least one stripper portion, and wherein the at least one first stripper

portion is adapted to engage the first sheet when the first sheet moves in the first

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direction relative to the stack and to enable the first sheet to move between the at

least one picking member and at least one first stripper portion;

at least one second stripper portion, wherein the at least one second stripper portion engages in stripping engagement at least one sheet engaging portion when no sheet extends between the at least one picking member and the at least one second stripper portion, and wherein the first sheet is enabled to move in the first direction between the at least one sheet engaging portion and the at least one second stripping portion, and wherein in response to movement of the at least one picking member in the picking direction the first sheet moves in the first direction and in such movement engages the at least one first stripper portion and the at least one second stripper portion, and wherein sheets included in the stack other than the first sheet are generally prevented from moving from the stack with the first sheet.

36. The apparatus according to claim 35 wherein in moving in the first direction relative to the stack the first sheet engages the at least one first stripper portion prior to engaging the at least one second stripper portion.

37. The apparatus according to claim 36 and further comprising:

a user interface including at least one input device and at least one output device, wherein the user interface is adapted to receive identifying inputs usable to identify users of the machine, to output indicia usable to operate the machine, and

to receive transaction inputs responsive to which the machine is operative to carry out at least one transaction function.

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at least one currency dispenser device, wherein the at least one currency dispenser device is selectively operative responsive to at least one input to the user interface to dispense currency from the machine.